

Amendments to the Claims

This listing of claims will replace the originally filed claims in the application.

Listing of Claims:

Claims 1 – 14 (cancelled)

Claim 15 (new): A method of enriching a pressurized gas stream with one of its constituents A, which comprises the steps of:

- a) dividing the stream (1) into at least first and second fractions (2, 3);
- b) sending at least one portion of the first fraction (2) into a separation unit (ASU);
- c) supplying, from the separation unit, at least first and second streams, the first stream (10) of which has a content of constituent A greater than that of the first fraction; and
- d) mixing at least one portion of the first stream with at least one portion of the second fraction in order to form a pressurized gas mixture (15),

characterized in that the second fraction is expanded before at least one portion of the first stream is mixed therewith.

Claim 16 (new): The method of claim 15, in which the pressurized gas stream (1) and the first fraction (2) are substantially at the same pressure and, in particular, only the pressure drops are the cause of a variation in pressure between these two fluids.

Claim 17 (new): The method of claim 15, in which the first stream and the expanded second fraction are substantially at the same pressure and, in particular, only the pressure drops are the cause of a variation in pressure between these two fluids.

Claim 18 (new): The method of claim 15, in which the separation unit (ASU) is autonomous in terms of energy requirements for compressing the gas streams produced by the unit or intended for the unit.

Claim 19 (new): The method of claim 15, in which the pressurized gas stream (1) is air and optionally constituent A is oxygen.

Claim 20 (new): The method of claim 19, in which the pressurized gas stream is air intended for a blast furnace (BF).

Claim 21 (new): The method of claim 15, in which the separation unit is a cryogenic distillation separation unit (ASU).

Claim 22 (new): The method of claim 21, in which the separation unit (ASU) comprises a medium-pressure column (2A), a low-pressure column (4A) thermally coupled to the medium-pressure column, and a mixing column (6A).

Claim 23 (new): The method of claim 22, in which no portion of the first fraction intended for a distillation column is compressed or no portion of the first fraction intended for the mixing column or for the medium-pressure column is compressed after the stream is divided at step i).

Claim 24 (new): The method of claim 15, in which:

- a) in a first operation, at least one portion of the first fraction is compressed and the second fraction is not expanded before at least one portion of the first stream is mixed therewith; and
- b) in a second operation, at least one portion of the first fraction is not compressed (the first fraction is not compressed) and the second fraction is expanded before at least one portion of the first stream is mixed therewith.

Claim 25 (new): An installation for enriching a pressurized gas stream with one of its constituents A, which comprises:

- a) means for dividing the pressurized gas stream (1) into at least first and second fractions (2, 3);
- b) a separation unit (ASU);
- c) means for sending at least one portion of the first fraction (2) to the separation unit; and
- d) means for mixing at least one portion of a first stream (10), produced by the separation unit and enriched in A compared to the first fraction, with the second fraction in order to form a stream (15) enriched in A compared to the pressurized gas stream,

characterized in that it includes a means (V) for expanding the second fraction upstream of the means for mixing at least one portion of the first stream therewith, and downstream of the means for dividing the gas stream.

Claim 26 (new): The installation of claim 25, the separation unit of which is an air separation unit (ASU) comprising a medium-pressure column (3A), a low-pressure column (4A) thermally coupled to the medium-pressure column, and a mixing column (6A).

Claim 27 (new): The installation of claim 26, which does not include any means for compressing air intended for the medium-pressure column or for the mixing column downstream of the means for dividing the gas stream.

Claim 28 (new): The installation of claim 25, which includes means for compressing the second fraction and means for forwarding the second fraction to be mixed with at least one portion of the first stream without passing via the expansion means.